

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
at WINCHESTER

AARON HILL, *et al.*,)
Plaintiffs,)
v.) Case No. 4:16-cv-117
KIA MOTORS AMERICA, INC., *et al.*,) Judge Mattice
Defendants.) Magistrate Judge Steger

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
at WINCHESTER

ROGER DALE PARKS, *et al.*,)
Plaintiffs,) Case No. 4:16-cv-118
v.) Judge Mattice
KIA MOTORS AMERICA, INC., *et al.*,) Magistrate Judge Steger
Defendants.)

ORDER

Before the Court are Defendants' various motions to exclude expert testimony, (4:16-cv-117, Docs. 307, 309, 311, 313; 4:16-cv-118, Docs. 284, 286, 288, 290), and for summary judgment, (4:16-cv-117, Doc. 316; 4:16-cv-118, Doc. 293).¹ The Court has determined that examination of Plaintiffs' proposed experts—Samuel Sero, Tyler Kress,

¹ Because the cases have been consolidated and the relevant record, motions, and briefs are identical on both dockets, the Court will cite only to filings in the lead case, 4:16-cv-117, when referencing those materials.

Steven Loudon, and Byron Bloch—is not needed to decide the instant motions. The evidentiary record is quite thorough and therefore adequate to the task at hand. For the reasons set forth herein, the motions to exclude expert testimony will be **GRANTED IN PART**, and the motions for summary judgment will be **GRANTED**.

I. BACKGROUND

The core facts that give rise to this dispute are relatively simple. On December 31, 2015, octogenarian Mary Parks was driving her 2008 Kia Optima down Dinah Shore Boulevard in Winchester, Tennessee. [Doc. 325, at 4-5, 17]. She and her sister, Jimmie Ruth Northcutt, were bound for a grocery store. [*Id.* at 4]. Instead of turning into the grocery store parking lot, however, the car accelerated to roughly 90 miles per hour over the course a half mile and struck the back of a minivan at an intersection. [*Id.* at 4-5]. The impact killed Parks and two seven-year-old passengers in the minivan. [Doc. 204-5, at 4].

Precisely why the vehicle accelerated is at the heart of this case, and the facts pertinent to that question—most of which were developed over roughly two years of discovery and derive from technically complex expert materials—will be addressed as relevant below. In short, Plaintiffs maintain that the acceleration was unintended and stemmed from a defect with the vehicle’s cruise control system, while Defendants argue that it resulted from pedal misapplication or else that Plaintiffs cannot prove that the acceleration resulted from an identifiable defect.

II. STANDARD OF REVIEW

A. Admissibility of Expert Testimony

Federal Rule of Evidence 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

This modern formulation of Rule 702 is, in part, a “response to *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), and ... *Kumho Tire Co. v. Carmichael*, 119 S. Ct. 1167 (1999). In *Daubert* the Court charged trial judges with the responsibility of acting as gatekeepers to exclude unreliable expert testimony.” Committee Notes on Rule 702 (2000).

Daubert clarified that when faced with a proffer of scientific² testimony, the “trial court must determine at the outset, pursuant to Rule 104(a)[], whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.” *Daubert*, 509 U.S. at 592. This requires “a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and ... properly can be applied to the facts in issue.” *Id.* at 592-93. “These matters should be established by a preponderance of proof.” *Id.* at 592 n.10.

² The Supreme Court later clarified that the reasoning of *Daubert* extends beyond just the “scientific” because Rule 702 “applies its reliability standard to all ‘scientific,’ ‘technical,’ or ‘other specialized’ matters” that may be the subject of expert testimony. *Kuhmo Tire Co., Ltd.*, 526 U.S. at 147. The trial court’s gatekeeping obligation, then, necessarily encompasses all specialized expert testimony. See *id.* at 148.

Although “not … a definitive checklist or test,” *Daubert* discussed factors that the trial court may consider when determining whether proffered expert testimony is reliable. *Id.* at 593. A “key question” is whether the theory at issue “can be (and has been) tested.” *Id.* “Another pertinent” but not dispositive “consideration is whether the theory or technique has been subjected to peer review and publication,” because “scrutiny of the scientific community” can help detect and eradicate “substantive flaws in methodology.” *Id.* at 593-94. So too a technique’s “known or potential rate of error” and “the existence and maintenance of standards controlling [a] technique’s operation.” *Id.* at 594. Finally, “general acceptance” within the relevant scientific community can bear on reliability, and a theory or technique that fails to attract support “may properly be viewed with skepticism.” *Id.*

B. Summary Judgment

Federal Rule of Civil Procedure 56 instructs the Court to grant summary judgment “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). A party asserting the presence or absence of genuine issues of material fact must support its position either by “citing to particular parts of materials in the record,” including depositions, documents, affidavits or declarations, stipulations, or other materials, or by “showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact.” Fed. R. Civ. P. 56 (c)(1). When ruling on a motion for summary judgment, the Court must view the facts contained in the record and all inferences that can be drawn from those facts in the light most favorable to the nonmoving party. *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio*

Corp., 475 U.S. 574, 587 (1986); *Nat'l Satellite Sports, Inc. v. Eliadis Inc.*, 253 F.3d 900, 907 (6th Cir. 2001). The Court cannot weigh the evidence, judge the credibility of witnesses, or determine the truth of any matter in dispute. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986).

The moving party bears the initial burden of demonstrating that no genuine issue of material fact exists. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). The moving party may discharge this burden either by producing evidence that demonstrates the absence of a genuine issue of material fact or simply “by ‘showing’ – that is, pointing out to the district court – that there is an absence of evidence to support the nonmoving party’s case.” *Id.* at 325. Where the movant has satisfied this burden, the nonmoving party cannot “rest upon its . . . pleadings, but rather must set forth specific facts showing that there is a genuine issue for trial.” *Moldowan v. City of Warren*, 578 F.3d 351, 374 (6th Cir. 2009) (citing *Matsushita*, 475 U.S. at 586; Fed. R. Civ. P. 56). The nonmoving party must present sufficient probative evidence supporting its claim that disputes over material facts remain and must be resolved by a judge or jury at trial. *Anderson*, 477 U.S. at 248-49 (citing *First Nat'l Bank of Ariz. v. Cities Serv. Co.*, 391 U.S. 253 (1968)); *see also White v. Wyndham Vacation Ownership, Inc.*, 617 F.3d 472, 475-76 (6th Cir. 2010). A mere scintilla of evidence is not enough; there must be evidence from which a jury could reasonably find in favor of the nonmoving party. *Anderson*, 477 U.S. at 252; *Moldowan*, 578 F.3d at 374. If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to summary judgment. *Celotex*, 477 U.S. at 323.

III. ANALYSIS

The Court has reviewed the outstanding motions to exclude expert testimony and for summary judgment. The motions to exclude must be granted at least in part because key portions of the proffered testimony are unreliable within the meaning of Rule 702 and *Daubert*. After exclusion, it is apparent that Plaintiffs have not established a genuine dispute of material fact as to causation, an element common to all of their products liability claims. For purposes of judicial efficiency, then, the Court resolves the motions to exclude only insofar as they impinge upon a dispositive component of summary judgment—specifically, the question of causation—and then will grant summary judgment to Defendants.

A preliminary overview of Plaintiffs' theory of the case will serve to organize the Court's analysis as set forth below. First, Plaintiffs assert that Parks did not intend to cause the acceleration at issue and was not accidentally depressing the accelerator pedal. (Defendants maintain that pedal misapplication caused the acceleration, or else that Plaintiffs cannot prove all the elements necessary to sustain a product liability action.) Second, Plaintiffs identify what they view as design defects within the car, especially related to the electronic throttle control, cruise control, and braking systems. Third, they posit that a confluence of those defects caused the acceleration and subsequent collision in December 2015. While Plaintiffs concede that "it would be impossible to ... pinpoint the precise manner in which the unintended throttle opening occurred," they nevertheless argue that there is "ample ... circumstantial evidence"—which will be taken up below—that an unspecified "malfunction of the cruise control" caused the 2015 collision. [Doc. 325, at 15].

A. Motions to Exclude Expert Testimony

Defendants move to exclude the testimony of Plaintiffs' experts Samuel Sero, Byron Bloch, Tyler Kress, and Steven Loudon pursuant to Rule 702 and *Daubert*. The experts each prepared a report and were deposed. The Parties have provided a fulsome record and thorough briefing. Accordingly, a hearing is not necessary.

The record and briefing show that Sero and Bloch provide a theory of causation related to the 2015 collision that lacks testing, peer review, publication, general acceptance, or support in other scientific literature. Specifically, they suggest that electromagnetic interference (EMI) within the 2008 Kia Optima caused an unintended acceleration that Parks could not stop by depressing the brake pedal. Their reports and depositions, however, show that the EMI theory is untested (and perhaps untestable) and has not been subjected to meaningful scrutiny by other scientists, let alone accepted by them or published under the rigor of peer review. Plaintiffs do not rely on Kress and Loudon for the EMI theory, nor does either provide an alternative theory as to how the 2008 Kia Optima's cruise control system caused the Parks acceleration. Accordingly, the motions to exclude will be granted in part as to Sero and Bloch's EMI testimony, denied as moot as to Sero and Bloch's non-EMI testimony, and denied as moot as to Kress and Loudon's testimony.

1. Samuel Sero

According to his curriculum vitae, Sero graduated from Carnegie Institute of Technology (now Carnegie Mellon University) with a B.S. in Electrical Engineering in 1967. [Doc. 307-1, at 9]. Since 1989, he has worked in "Private Consulting" as to the

general field of “Forensics,” investigating a wide range of matters. [*Id.*] He has investigated “electrocutions,” “fire[] … cause and origin,” workplace injuries related to “electrical, mechanical, pneumatic or hydraulic systems,” “consumer power tool related injuries such as from treadmills, hand tools, power tools, lighting, aquariums, and appliances,” “vehicle related problems” ranging from “structural defects involving frame and sub-frame components” to “unintended accelerations” to “traffic signals” to “seat belt operation,” “[s]lip and fall” accidents, “sprinkler system failures,” “elevator operations,” “Electromagnetic Field effects from power lines in relation to … health, property values and equipment interference,” and more still that the Court omits for brevity. [*Id.* at 9-10]. From 1975 to 1989, Sero privately consulted on engineering design, and at unspecified times worked directly for a utility company and did contract work at a nuclear plant and on water and air purification systems. [*Id.* at 11-13]. He is registered as a professional engineer in Pennsylvania and holds “[o]ne sole and three joint” patents “on soil anchoring and foundation devices with hydraulic setting tools.” [*Id.* at 14].

Sero prepared a six-page report for the present litigation. [*See generally* Doc. 307-1]. He focuses on the design of the 2008 Kia Optima’s electronic system, and especially on the cruise control system. After a discussion of the design and his opinion as to how it could have been designed differently, he concludes: “[i]t is my opinion to a reasonable degree of engineering certainty and based upon my examination and analysis to date and thirty years of investigating and studying sudden acceleration that the 2008 Kia Optima is defective in that it may cause an unwanted activation of the cruise control in which the throttle motor is activated causing the vehicle to experience an unwanted acceleration.” [Doc. 307-1, at 6].

Sero explains that buttons and functions on the steering wheel—including the “Res/Accel,” “Cancel,” and “Coast/Set” cruise control buttons³—are routed through a single electrical connection⁴ to the electronic engine controller (“EEC”),⁵ which is essentially an onboard computer.⁶ [Id. at 3]. Different cruise control functions trigger a “different [electrical] resistance” (that is, a change in voltage) that the EEC interprets as a different command. [Id.] Upon receiving an electrical signal associated with a cruise control function, the EEC commands the electronic throttle control (“ETC”) to manipulate the motor that opens and closes the throttle. [Id.]

The electrical signals for steering wheel functions (including the cruise control) are transmitted by wire to the EEC via a component called a clock spring, which is located “directly behind the driver’s airbag storage module” where the wheel meets the column.⁷

³ Sero himself uses slightly different terms for the buttons, but Bloch’s report includes a picture of the steering wheel from inspection of the 2008 Kia Optima at issue, so the Court draws the nomenclature for these functions from that picture. [See Doc. 313-1, at 5].

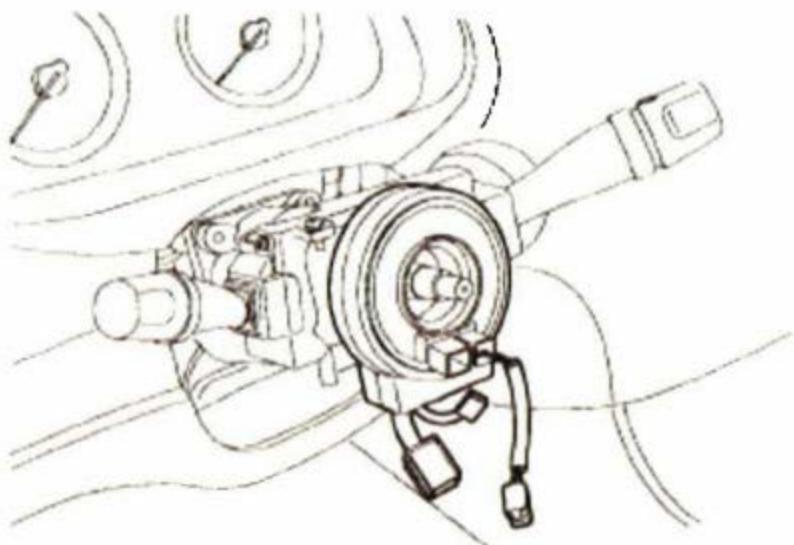
⁴ Sero indicates that the cruise control functions are routed through “a single input wire”; Bloch’s report explains that that wire in turn runs through an electrical ribbon with wires related to other functions, such as the radio. [See Doc. 313-1].

⁵ Other experts, and the Parties themselves, also refer to a car’s onboard computer using various different terms and initialisms including electronic control module (“ECM”), electronic control unit (“ECU”), and powertrain control module (“PCU” or “PCM”). [See Doc. 325, at 8 n.2 (explaining these are different names for the same thing)].

⁶ Sero’s report seems to say different things about whether the cruise control in the 2008 Kia Optima is “stand-alone” in the sense that the electrical signals are interpreted directly by the electronic throttle control, or are routed through the onboard computer to the throttle control. This and other incongruities may stem from Sero’s explanation during his deposition that some portions of this report, which at times discusses other car manufacturers such as Ford, were directly “copied from a previous report.” [Doc. 307-3, at 2]. In any case, the distinction appears immaterial for purposes of resolving the motion.

⁷ This discussion of the clock spring system is also drawn in part from the report of Byron Bloch, as are the diagrams and pictures. [See generally Doc. 313-1, at 5-7]. The Court cannot identify any material difference between Bloch and Sero’s technical descriptions of the clock spring system, and Defendants do not contest the accuracy of their description of the basic system design (only its meaning in relation to this lawsuit).

Fig. 4: Identifying Clock Spring And Horn Connector
Courtesy of KIA MOTORS AMERICA, INC.



[Doc. 313-1, at 6]. The clock spring's function is "to provide electrical continuity" between steering wheel functions and the rest of the car while "the steering wheel rotates left and right during driving." [Id.] To accomplish this, the wires associated with steering wheel functions are routed through multiple winds of slack electrical ribbon (pictured below) that can constrict around a center point while the wheel is turned without breaking the connection. [See *id.* at 5-8].



[*Id.* at 7].⁸

Sero's report discusses how cars work (especially the "drive-by-wire" ETC system discussed above), the evolution of car design and history of sudden acceleration events, what throttle control designs are reasonable, what designs were available when Kia manufactured the 2008 Optima, and how an electrical malfunction could have caused the acceleration at issue in this case. The Court focuses on causation, for which Sero's conclusion hinges fundamentally upon the claim that the cruise control "system is open to malfunctioning by unwanted changes in input voltage values that can be misinterpreted by the computer programming and result in an unwanted acceleration."

[*Id.* at 2]. The particular electrical malfunction he identifies in his report and deposition, and about which he would testify at trial, is the potential for unspecified electromagnetic

⁸ Bloch uses these images to compare an exemplar Kia clock spring with an exemplar Chrysler clock spring. Because the images are included only for sake of clarity for the *Daubert* motions (and not in relation to a merits question—i.e., whether Kia used a defectively designed clock spring in the 2008 Kia Optima), the images are cropped to contain only the Kia clock spring.

interference (EMI) within the car's electrical system to transmit a voltage that in turn causes an unintended acceleration.

Sero's report explains that the adjacency of multiple electrical circuits inherent to the "clock spring input method" can result in "faulty signals" being sent through the cruise control system due to "loss of electromagnetic compatibility (creation of electromagnetic interference EMI)." *[Id. at 4]*. He also asserts more generally that "[u]nder the hood of a car" is an exceptionally "harsh[] EMI environment[]" because of the many electrical components and the "uncontrolled interconnection of electronic and electrical components creates ... uncontrolled conductive and radiated EMI" that can cause incorrect signal fluctuations. *[Id. at 4]*. Such EMI, however, "will leave no trace behind," meaning that the "effects of EMI" have been "impossible to duplicate since its discovery." *[Id. at 4-5]*. Sero thus contends that the potential for EMI should be designed out up-front, such as by returning mechanical "control of the accelerator ... [to] the operator" and "[e]liminating the cruise control and the drive-by-wire functions." *[Id. at 6-7]*.

The report, however, contains relatively little discussion of the 2008 Kia Optima, its cruise control, and its clock spring, except to the extent that Sero claims that it is, seemingly along with all electrically-complex cars, defective due to the potential for EMI. At his deposition, Sero conceded that he had not tested the 2008 Kia Optima or an exemplar vehicle for cruise-control related EMI, had not "looked at the circuit board" on "this car, no" and did not "conduct[] any testing for this case." *[Doc. 307-2, at 4, 7]*. He nevertheless maintained that EMI caused the acceleration:

Q: ...is it your opinion that this vehicle had a defect that caused the crash in this case?

A: Yes.

Q: And how did that defect cause the crash?

A: By causing the throttle to open.

Q: And how did the defect cause the throttle to open?

A: By virtue of an electronic malfunction.

Q: All right. So can you trace this crash to some specific defect in the electronic throttle control system of the 2008 Kia Optima?

A: No. No one could. It doesn't leave a footprint. It's just--it's a random event. It happens.

[Doc. 307-2, at 13].

As to his more generalized view that EMI can cause unintended acceleration, Sero admits that he has "never published any paper which sets forth [his] theory that EMI will cause an electronic throttle control system to malfunction with unintended acceleration" nor even submitted one for publication. [Doc. 307-2, at 8]. At one point he apparently tried to find evidence to validate his theory:

Q: Did you use to do testing?

A: Yes, I did.

Q: And you quit running tests probably what, 15 years ago or more?

A: I don't know. Give or take maybe.

Q: And since that time you've done no testing –

A: No, I haven't.

Q: --for unintended acceleration, correct?

A: Correct.

Q: And you don't even try to do testing anymore, do you?

A: That's correct.

Q: And you never were able to produce unintended acceleration in an actual vehicle through electromagnetic interference, were you?

A: No.

[*Id.* at 11-12].

Defendants argue that Sero's proffered testimony—that the 2008 Kia Optima is defective insofar as non-specific EMI can cause the cruise control to send a sustained open command to the ETC—is not “reliable” within the meaning of Rule 702 and *Daubert*. [Doc. 308]. Notwithstanding whether EMI generally exists, they argue that Sero has never successfully validated the theory that EMI can cause a sustained open-throttle command in any car, and has not even tested for the possibility in a 2008 Kia Optima. Nor, they point out, has he subjected his theory to peer review, provided citation to peer-reviewed literature that supports his conclusion, or provided any suggestion that there is general acceptance of the idea that EMI can cause a sustained, unintended, and uncontrollable acceleration in any automobile.

Plaintiffs, in their response, state that Sero's role is not to testify as to specific causation⁹ but instead is “to describe the electronic throttle control (ETC) and cruise control system and describe their potential failures” as well as “the general functionality of the subject” vehicle. [Doc. 323, at 2]. They maintain, however, that his conclusion—that “the 2008 Optima is defective in that it may cause an unwanted activation of the

⁹ They also note that “specific causation is predicated upon other evidence, including the testimony of Plaintiffs' expert Steven Loudon.” [Doc. 323, at 2]. In the response brief to the *Daubert* motion for Loudon, however, Plaintiffs say “[i]t is the role of Plaintiffs' other experts Samuel Sero and Byron Bloch to describe how the cruise control design can cause unintended throttle opening.” [Doc. 322, at 5]. In other words, it appears that Loudon's testimony—rather than providing a standalone theory of causation—is supposed to corroborate Sero and Bloch's EMI theory as to the specific 2015 acceleration.

throttle, ignoring any brake on/off input”—is admissible. [Id.] They also argue that Hyundai, which owns a partial stake in Kia, has itself stated that “[w]ith virtually all cars using electronic throttle control today, there remains the remote possibility for an unforeseen electronic throttle control malfunction, causing a vehicle to accelerate contrary to driver input.” [Id. at 3]. Plaintiffs go on to argue that the electronic complexity in modern vehicles is a design defect, that Sero cannot be expected to identify evidence in support of his claim because EMI leaves no footprint, and that one article¹⁰ and one NASA document¹¹ support his theory. They also point to diagnostic trouble codes relating to a stuck “resume/accel” button the 2008 Optima’s cruise control system and attack the sensibility of the clock spring design.¹²

To allow Sero to describe the “potential failures” of the system, however, is to admit the untested, unpublished, and unaccepted view that EMI can cause a sustained, unintended acceleration. Hyundai’s ostensible admission relates to generic “electronic throttle control malfunction” and makes no mention of EMI, let alone the possibility that EMI could cause such a malfunction. Moreover, Sero’s view that electronic complexity

¹⁰ Sungji Park, Youngsuk Choi & Woongchul Choi, *Experimental Study for the Reproduction of Sudden Intended Acceleration Incidents*, 267 Forensic Science International 35 (2016).

¹¹ That document explains that, in relation to testing of a Toyota Camry, NASA identified “two hypothetical [electronic throttle control] failure mode scenarios … that could lead to UA without generating a diagnostic trouble code …: specific dual failures in the pedal position sensing system and a systematic software malfunction in the main central processor unit (CPU) that is not detected by the monitor system.” [Doc. 323-2]. How these hypothetical failures relate to the generalized possibility of EMI in a 2008 Kia Optima is not obvious. Moreover, and as discussed below, Plaintiffs omitted the part of the NASA study stating that it subjected test vehicles to EMI levels “significantly above certification levels” and found that “EMI testing did not produce any UAs [unintended accelerations], but in some cases caused the engine to slow or stall.” See note 26, *infra*.

¹² Plaintiffs appear to argue that the diagnostic trouble codes show that *something* electrical must have gone wrong. The problem is that Sero’s proffered *something* is EMI, and the theory that EMI can cause a sustained, unintended acceleration is unreliable.

amounts to defective design requires the presupposition that EMI can actually cause unintended acceleration. And indeed, that Sero could not possibly identify evidence for his theory amounts to conceding that his theory is not only unproven but perhaps could never be validated, which at best does not help Plaintiffs' reliability argument and at worst suggests that the EMI theory could never be reliable. To be clear, Sero's conclusion that EMI accompanies electrical complexity is not itself problematic. The reliability problem lies in the profound gap between that premise and Sero's conclusion that EMI can cause a sustained acceleration in the cruise control system of a 2008 Kia Optima.

Plaintiffs do cite to a published article in their response (though it is unclear to what extent Sero relied upon it in generating his conclusion). South Korean researchers Park, Choi and Choi¹³ manipulated the electrical signal to an ETC and showed that "throttle valve position went ... to 100% [open] ... when the battery voltage" transmitted to the ETC "plunged down to 7 V periodically despite that the acceleration pedal position was kept steady." [Doc. 313-7, at 1 (Abstract)].¹⁴ This does suggest that voltage fluctuation to the ETC can cause throttle opening, if only when the voltage is intentionally and significantly tempered.

Plaintiffs' reliance is misplaced, however, because Park, Choi and Choi do not purport to show that EMI can cause a voltage fluctuation that would result in a sustained

¹³ Sungji Park, Youngsuk Choi & Woongchul Choi, *Experimental Study for the Reproduction of Sudden Intended Acceleration Incidents*, 267 Forensic Science International 35 (2016).

¹⁴ Defendants read the article to say that the acceleration lasted only a second. The authors do discuss that figure in relation to bench testing. During the road test, however, "the supply voltage fluctuation had to be stopped to regain ... control" of the vehicle because "it was clear to the authors that the vehicle would increase its speed to the maximum as long as the supply voltage fluctuation continued." [Doc. 313-7, at 7].

unintended acceleration, as Sero suggests happened in the 2008 Kia Optima. They note that such voltage drops can be caused by “any open or short circuits in the electronic control system made by any debris of conductive material, water or oil contamination,” but to replicate such an event they “purposely lowered” the voltage so as to “simulate bad alternator and/or battery system.” [Id. at 2]. They also note that “the supply voltage may plunge” when “various electrical devices are turned on simultaneously … during … low speed” because “high electricity demand combined with the low output of power generation” from an alternator operating at low speed may strain an electrical system. [Id. at 7]. “Based on the[se] findings,” they conclude, “it is strongly recommended that the total electric load” of automobiles be examined “carefully to optimize the power output of the alternator … [and] battery capacity.” [Id. at 8]. But Park, Choi, and Choi do not even discuss, let alone test, EMI as a potential cause of voltage drop. In other words, they did not even attempt to validate, and their findings do not support, Sero’s central claim that EMI could cause a sustained throttle opening.

Plaintiffs attach three cases in which Sero’s testimony was admitted, two of which were from state courts and all of which are at least 15 years old. They also point to *Jarvis v. Ford Motor Co.*, 283 F.3d 33 (2d Cir. 2002), in which Sero’s testimony was admitted. His testimony in that case, however, related to identifiable faults and malfunctions in electrical circuitry rather than his general EMI theory. In fact, the Second Circuit noted (but had no need to analyze) the district court’s exclusion of what appears to be a similar, perhaps more situation-specific version of Sero’s EMI theory:

Sero proffered a separate theory that does not depend on grounded wires but rather on a stray electromagnetic signal to fire the output transistors on the speed amplifier. … Sero suggested this signal could come from ‘radio frequency,

electromagnetic induction, electrostatic discharge, spiking off the generator, or the variable speed sensor.' *Id.* Following a pre-trial *Daubert* hearing, the district court deemed that the testimony regarding this theory was inadmissible after finding that 'Sero had neither replicated this condition in a model nor witnessed it in real life prior to the hearing.'

Id. at 41 n.3.

Indeed, another district court in the Sixth Circuit has rejected as unreliable testimony by Sero about what appears to be the same EMI theory in a similar case. It explained:

Sero has not reliably ruled in EMI as a potential cause of sudden acceleration ... Sero's opinion lacks the indicia of reliability as set forth in *Daubert*. Sero's theory has not been: 1) verified through testing; 2) published or peer reviewed; 3) generally accepted. Finally, Sero's theory is not based on sufficient facts or data.

Buck v. Ford Motor Co., 810 F. Supp. 2d 815, 831 (N.D. Ohio 2011). In relation to Sero's lack of testing, the district court noted:

We are left to wonder how Sero knows what he says he knows. For example, Sero states in his report that '[w]hen an EMI-induced failure sends an unintended signal to the throttle, there are usually no detectable marks.' ... But he testified that he has also never been able to get a transient signal to activate any other kind of speed control. ... Without any person ever having found a signal that could activate a servo [and cause unintended acceleration], how can Sero state what usually occurs?

Id. at 832. As to peer review:

Neither Sero's EMI theory nor any of his work on sudden acceleration has ever been published or peer reviewed. ... Nor is Sero aware of any peer-reviewed article in a recognized journal finding that a transient signal can cause a cruise control to activate and result in sudden acceleration. ... While [the plaintiff] is correct that the lack of peer review is not dispositive of reliability, the fact that Sero, who has worked in this field for decades, has never had this theory reviewed weighs heavily against admitting his testimony.

Id. at 833; see also *Kesse v. Ford Motor Co.*, 2020 WL 832363, at *7-*9 (N.D. Ill. Feb. 20, 2020) (excluding as unreliable Sero's EMI theory because he had done no testing of his own, could point to no testing by others, had never been able to cause an unintended acceleration by EMI, had never published his theory, could identify no peer-reviewed support, and "admit[ted in his deposition] that the National Highway Transportation Safety Administration has concluded that Sero's theory has no merit").

In sum, Plaintiffs have not established the reliability—under Rule 702 and *Daubert*—of Sero's conclusion that EMI could have caused a sustained, unintended, and uncontrollable acceleration in the 2008 Kia Optima. Defendants' motion to exclude is therefore **GRANTED IN PART** as to Sero's EMI theory.

2. Byron Bloch

According to his curriculum vitae, Bloch graduated with a Bachelor of Arts degree in 1960 from University of California, Los Angeles ("UCLA")¹⁵ with "[e]mphasis ... in Industrial Design (Product Design), including Human Factors Engineering." [Doc. 313-18, at 6]. He then matriculated into a graduate program at UCLA for the same, where "[a]ll required courses were completed, with straight-A grade point average" and he "[a]dvanced to Candidacy for Master's Degree."¹⁶

In the 1960s, Bloch worked or consulted for industry on various engineering and design projects including "various military weapons systems" and "design[ing] avant-

¹⁵ Prior to graduating from UCLA, his CV indicates that he also did undergraduate work at Northwestern University and University of Kansas. [Doc. 313-18, at 6].

¹⁶ Based on the CV, it is unclear whether UCLA ultimately conferred a graduate degree on Bloch. For present purposes, it matters little if at all.

garde cardiovascular surgery facilities,” as well as automotive safety analysis for General Motors Company’s Chevrolet Corsair and, in 1976, a Volkswagen fuel tanks system. [*Id.* at 5-6]. His CV reflects that he also began a long career of working on automotive safety, including by analyzing specific crashes, speaking to the public (including on various television programs), and testifying “in [p]roduct [l]iability cases across the nation … on behalf of the injured plaintiff” as to “what he believes are the vehicle’s needless ‘design defects’ that caused the severity of injury or death, and safer alternative designs that would have prevented the accident and/or the severity of injuries.” [*Id.* at 2-3 (emphasis removed)]. His CV includes a long list of presentations and publications (some possibly in peer-reviewed journals, some not), some of which deal with general automotive safety, while others hone in on specific topics like optimal window glass construction or fuel tank design. [*Id.* at 6-9]. He has also testified to NHTSA and Congress about various particular safety issues, including roof crush resistance, seat belts, airbags, and fuel tanks. [*Id.* at 9-10].

Bloch prepared a 13-page report for the present litigation. [See Doc. 313-1]. He describes various systems within the 2008 Kia Optima, the accident, and what he views as design defects. In particular, he focuses on the clock spring and the possibility that EMI—which he refers to as EMF or crosstalk¹⁷—could cause the cruise control to send a sustained wide-open command to the ETC. He concludes: “I believe … that the clock-spring and its connections, in the 2008 Kia Optima at-issue, caused EMF crosstalk (e.g.,

¹⁷ Earlier in his report, Bloch explains that “‘EMF or electromagnetic crosstalk’ between adjacent or nearby wires … [is] also known as EMI for electromagnetic interference.” [Doc. 313-1, at 7 (emphasis removed)]. In other words, the phenomenon that Sero calls EMI, Bloch refers to as “EMF” or “crosstalk.”

unanticipated erratic voltages) that adversely affected the Cruise Control, and which prompted it to kick into an open-throttle condition. Based on the totality of all the evidence and cumulative information, I believe this is the reason that Sudden Unintended Acceleration (SUA) occurred" and caused the 2015 accident. [*Id.* at 12].

The Court will not repeat Bloch's discussion of the clock spring design, which it explicated when discussing the motion to exclude Sero's testimony. Suffice it to say, Bloch posits—like Sero, albeit with less generalized discussion of EMI and more analysis of the 2008 Kia Optima itself—that the clock spring design is susceptible to crosstalk because it contains multiple electrical connections in close proximity, and that crosstalk within the clock spring can cause a sustained acceleration command to be transmitted to the ETC. He identifies various facts in support of his crosstalk theory, and the Court now addresses each in turn.

First, Bloch points out that Kia initiated a clock spring recall and replacement in 2012 for Kia Optimas manufactured between September 29, 2005 and January 29, 2008. [Doc. 313-5]. Kia explained that for vehicles in that manufacturing range:

There is a possibility that the clock spring contact assembly may become worn over time. If the clock spring contact assembly becomes damaged, it can cause high electrical resistance, which could prevent deployment of the driver's air bag in certain frontal collisions. If this condition occurs, the "AIR BAG" warning lamp will illuminate.

[*Id.* at 1]. Bloch's report notes that "this recall did not include the subject Parks Kia Optima that was manufactured on February 14, 2008." [Doc. 313-1, at 9 (emphasis removed)]. In relation to the cruise control, Bloch's report quotes the Kia recall notice and then states his conclusion:

‘There is a possibility that the clock-spring contact assembly may become worn over time. If the clock spring contact assembly becomes damaged, it can cause high electrical resistance.’ This would cause erratic voltages to be conveyed to the Cruise Control, which either directly or through EMF crosstalk in the electrical wiring bundles, would cause an open-throttle command... thus unintended runaway acceleration.

[*Id.* at 7 (ellipsis original to Bloch’s report)].

Second, Bloch points out recorded instances of diagnostic trouble code (“DTC”) P0564.¹⁸ He explains: “One of the listed root causes” for the DTC (he does not list the others) “is ‘poor electrical connection.’ Thus, the erratic voltages from the defective clock-spring would trigger the P0564 codes that were recorded.” [Doc. 313-1, at 7 (emphasis removed)]. He then says: “Hyundai information sheets show the voltages between 10V to 16V, and lists ‘Possible Causes’ as ‘Open or short in harness. Poor connection or damaged harness. Faulty cruise remote control switch.’” [*Id.* (emphasis removed)]. He goes on to say

The Hyundai document about DTC P0564 states (on page 3) that: ‘Many malfunctions in the electrical system are caused by poor harness(es) and terminals. Faults can also be caused by interference from other electrical systems, and mechanical or chemical damage.’ (The term ‘interference from other electrical systems’ can also refer to electrical voltage signal ‘EMF crosstalk’ as such interference.)

[*Id.* (emphasis removed)].

Third, Bloch points out that Parks had “complained in May 2010 and again in May 2011 ... about erratic problems with the radio.” [*Id.* at 7]. He asserts that the “electrical

¹⁸ Although unspecified in Bloch’s report, Loudon’s report provides technical information regarding P0564 DTCs recorded in the 2008 Kia Optima, and explains that P0564 is specific to the cruise control system. [Doc. 311-1, at 14]. As is discussed in Plaintiffs’ opposition to summary judgment, no DTC related to the cruise control or otherwise was recorded at the time of the Parks accident.

continuity" for both "the cruise control and the radio" would have "depend[ed] on the proper functioning of the clock-spring" because the "vehicle had steering-wheel-mounted controls for both." [Id.] He therefore appears to suggest without explicitly stating that complaints of an errant radio show that electrical continuity for the cruise control was compromised in some way within the clock spring. In keeping with that view, Bloch then asserts that "Chrysler ... recall campaigns for defective clock springs in the 2008-2010 era ... noted that clock springs would affect performance of the steering wheel mounted radio controls" whereas Kia did not recognize "that the subject Kia's erratic radio performance was symptomatically linked to a problematic clock spring and its connections." [Id.]

Bloch's report also discusses a Kia recall associated with the brake light switch, an apparent lack of redundancy in the cruise control system,¹⁹ and lack of a "Smart Pedal" brake override. Because those conclusions do not relate what would have actually *caused* the acceleration at issue (only whether, assuming it was caused by a defect, it could have been prevented), the Court omits discussion of them.

Defendants move to exclude Bloch's testimony on the grounds that 1) he is an advocate rather than an expert, and 2) his conclusions are not reliable. Although there is no denying that Bloch's career has included a great deal of advocacy, the Court need not

¹⁹ He explains that "there is no redundant safety feature in the cruise control, which would be helpful to ensure against an erratic voltage. ... The redundancy feature for the cruise control switch would require more electronic computer processing componentry (diodes, capacitors, circuit cards, etc.), which would therefore require more cost," which he indicates may explain the absence of a redundancy feature. [Doc. 313-1, at 12]. The Court would note that this observation, focusing on cost, seems to be inconsistent with Bloch and Sero's view that electronic complexity increases the likelihood of crosstalk/EMI.

wade into that issue because it is plain that his causal conclusions are not reliable within the meaning of Rule 702 and *Daubert*.

Bloch, like Sero, suggests that unspecified EMI (in his terms, EMF or crosstalk) among electrical components in the clock spring could cause the 2008 Kia Optima to experience a sustained, wide-open acceleration. The problem, as with Sero, is that he does not connect his premise (crosstalk occurs, or at least can occur, in the clock spring) to his conclusion (clock spring crosstalk can cause the automobile to accelerate). Even if the premise is true—and the Court assumes, for present purposes, that it is²⁰—Bloch’s assertion that the conclusion necessarily follows lacks any support whatsoever. When asked at his deposition “what testing, if any, have you done of any parts of a Kia in this case” to support his acceleration conclusion, Bloch answered:

The testing with regard to the effect of voltages on cruise control and acceleration, runaway acceleration, unintended runaway acceleration, et cetera, was well defined in testing done not specifically by myself but, as I mentioned earlier, in the work in Korea done by Mr. Park and Mr. -- the two Mr. Choi’s, C-H-O-I, who actually conducted such tests and measured the voltages and measured the effect on the cruise control and the resulting acceleration. They did it both with regard to dyna- -- dynamometer tests as well as correlating it then with road tests.

[Doc. 313-2, at 41]. When asked as follow-up “[w]hat testing, if any, have you performed of any of the cruise control components of an MG Optima with a Theta engine,” he conceded “I have not performed any test protocols such as you have suggested.” [Id. at 42]. Defendants also point out Bloch’s concession that he does not know the technical

²⁰ Bloch does cite to documentation suggesting EMI/crosstalk can occur in automobile electrical systems. But establishing that EMI can occur is a far cry from establishing that it can cause a sustained acceleration, or that it did so in this case.

definition of a “volt,” [id. at 212], and apparently could not answer questions related to the cruise control design without reference to documents, [id. at 25-35].

As discussed in relation to Sero’s conclusions, however, Park, Choi, and Choi emphatically did not test whether EMI/crosstalk can cause a voltage drop (significant or otherwise), nor whether cruise control malfunction in general can cause an unintended acceleration. They “purposely lowered and perturbed” supply voltage “to simulate bad *alternator and/or battery system.*” [Doc. 313-7, at 3 (emphasis added)]. Their study, in other words, is not a meaningful stand-in for testing and does not fill the gap between Bloch’s crosstalk premise and acceleration conclusion.

Indeed, Bloch’s discussion of the three categories of evidence of cruise control malfunction—the clock spring recall for Optimas manufactured prior to the one at issue, the DTCs, and the erratic radio—dances around this gap without directly confronting it. He quotes the recall notice’s mention of “high resistance” but then excises its warning of a concomitant air bag issue and substitutes his own conclusion that the condition “would cause erratic voltages to be conveyed to the Cruise Control, which either directly or through EMF crosstalk in the electrical wiring bundles, would cause an open-throttle command... thus unintended runaway acceleration.” [Doc. 313-1, at 7 (ellipsis original to Bloch’s report)]. Other than his reference to the Park, Choi, and Choi article—which, as discussed, does not fill the gap—the reader must speculate as to how he concludes this. So too the DTCs, about which he notes that “[o]ne of the listed root causes is ‘poor electrical connection,’” thus “the erratic voltages from the defective clock-spring would trigger the P0564 codes.” [Id. (emphasis removed)]. But the reader is left to wonder how

Bloch ruled out the other possible root causes of the DTC (whatever they are²¹), how he knows (notwithstanding what other experts may know) what kinds of erratic voltages would trigger the DTCs and, most critically, how he knows that the erratic voltages that he asserts caused the DTCs also caused the acceleration at issue. Finally, Bloch in no way explains how he knows that radio misbehavior reported in 2010 and 2011 relates to the 2015 accident, except by saying that Chrysler in 2008-2010 believed its vehicles had radio issues related to clock springs. [*Id.*]

As with Sero's EMI theory, then, Bloch's crosstalk theory and the related conclusion—that “that the clock-spring and its connections, in the 2008 Kia Optima at-issue, caused EMF crosstalk (e.g., unanticipated erratic voltages) that adversely affected the Cruise Control, and which prompted it to kick into an open-throttle condition ... [and] is the reason that Sudden Unintended Acceleration (SUA) occurred in the Hill accident at-issue”—lacks testing, peer review, publication, and general acceptance.²² It is therefore inadmissible under Rule 702 and *Daubert*, and for that reason, Defendants' motion to exclude Bloch's testimony is **GRANTED IN PART**.

²¹ Plaintiffs' opposition to summary judgment acknowledges that mechanical sticking or extended depression by the operator can trigger the DTC but asserts that “mechanical sticking ... was ruled out in this case” and cites to the deposition of Defendants' expert Eddie Cooper, Doc. 317-10, at 300. [Doc. 325, at 12]. Cooper, however, does not appear to rule out mechanical sticking, and in any case, Plaintiffs do not cite to any explanation by Bloch of how he did so.

²² Although unclear, Bloch at times appears to suggest that some kind of generalized malfunction—as opposed to crosstalk specifically—in the cruise control or clock spring could have resulted in a voltage drop or otherwise erratic voltage. But given that Bloch does not explain what that malfunction might have been, how it might have caused a voltage drop, to what extent the voltage would have dropped and for how long, or how that voltage drop would cause a sustained acceleration, it is not clear how that opinion could possibly be reliable and therefore admissible under Rule 702 and *Daubert*. Indeed, as with the gap between the crosstalk premise and acceleration conclusion, Bloch does not reliably connect a voltage drop premise (to the extent he formulates one) to the conclusion that such a drop could *cause* an acceleration like the one at issue.

3. Steven Loudon

In their response in opposition to Defendants' motion to exclude Loudon, Plaintiffs explain that Loudon's role was not to identify what could go wrong in the 2008 Kia Optima. Rather, it was "the role of Plaintiffs' other experts Samuel Sero and Byron Bloch to describe how the cruise control design can cause unintended throttle opening." [Doc. 322, at 5]. "Mr. Loudon's testing" of an exemplar Optima, instead, was supposed to provide "circumstantial proof of the cause of Mrs. Parks' event." [Id.]

As will be seen below, however, the exclusion of Sero and Bloch's testimony on precisely that point requires summary judgment, and Defendants' motion to exclude Loudon's testimony does not bear on that analysis. Accordingly, Defendants' motion to exclude Loudon's testimony is **DENIED AS MOOT**.

4. Dr. Tyler Kress

In their response in opposition to Defendants' motion to exclude Dr. Kress, Plaintiffs explain "Dr. Kress does not purport to opine as to a specific defect in the design of Kia's electronic throttle control system or cruise control system" and instead made clear that "he was relying upon other experts to describe that condition." [Doc. 320., at 2]; [see also Doc. 321, at 5 (Plaintiffs' memorandum explaining that when "Defense counsel ... question[ed] Dr. Kress regarding a specific defect" in the 2008 Kia Optima he responded that "other experts would address a specific defect")]. Dr. Kress would abstain from discussion of electrical systems and proffer only human factors testimony related to driver error. [See *id.*]

As will be seen below, however, the exclusion of Sero and Bloch's testimony on whether a specific defect could cause unintended acceleration requires summary judgment. Defendants' motion to exclude Dr. Kress's testimony does not bear on that analysis. Accordingly, Defendants' motion to exclude Dr. Kress's testimony is **DENIED AS MOOT.**

B. Summary Judgment

The Tennessee Products Liability Act provides:

"Product liability action" for purposes of this chapter includes all actions brought for or on account of personal injury, death or property damage caused by or resulting from the manufacture, construction, design, formula, preparation, assembly, testing, service, warning, instruction, marketing, packaging or labeling of any product. "Product liability action" includes, but is not limited to, all actions based upon the following theories: strict liability in tort; negligence; breach of warranty, express or implied; breach of or failure to discharge a duty to warn or instruct, whether negligent, or innocent; misrepresentation, concealment, or nondisclosure, whether negligent, or innocent; or under any other substantive legal theory in tort or contract whatsoever[.]

Tenn. Code Ann. § 29-28-102(6). As the statutory language indicates, "[c]ausation [is] an essential element of any products liability action." *Nye v. Bayer Cropscience, Inc.*, 347 S.W.3d 686, 704 (Tenn. 2011).

Defendants move for summary judgment on the basis that Plaintiffs have not met their burden to identify a "specific defect" in the 2008 Kia Optima and present various "possibilities, but no actual evidence of an actual defect that actually manifested so as to cause the actual crash." [Doc. 317, at 7 (emphasis added)]. Plaintiffs maintain that an "electronic malfunction" caused the crash while conceding that "it would be impossible to examine the vehicle and pinpoint the precise manner in which" the malfunction did so,

and argue that “circumstantial evidence” suggests that “Mrs. Parks’s event was caused by a malfunction of the cruise control.” [Doc. 325, at 15]. They assert that summary judgment should be denied because under Tennessee law it “is not necessary to pinpoint a ‘specific defect’, [sic] instead liability can be predicated upon circumstantial proof.” [Doc. 326, at 3].²³ Plaintiffs cite no Tennessee authority for this proposition.

The Tennessee Supreme Court has explained that “a defect in a product, as well as any other material fact, may be proven by direct evidence, circumstantial evidence, or a combination of direct and circumstantial evidence.” *Browder v. Pettigrew*, 541 S.W.2d 402, 405 (Tenn. 1976). But Tennessee courts have not applied *Browder* to mean that a specific defect need not be identified as the cause of the injury. Quite the opposite, the Tennessee Court of Appeals has cited *Browder* for the proposition that “under Tennessee law, to establish a defect in a product, the plaintiff must ‘trace the injury to some specific error in construction or design of the’” product. *Fulton v. Pfizer Hosp. Prods. Grp., Inc.*, 872 S.W.2d 908, 912 (Tenn. Ct. App. 1993) (quoting *Browder*, 541 S.W.2d at 404).²⁴ In

²³ This statement is contained not in their brief but in a separate filing that Plaintiffs describe as responding to Defendants’ discussion of material facts in the record.

²⁴ The Sixth Circuit Court of Appeals, in citing *Fulton* for this same proposition, has cautioned that “[a]rguably, *Fulton* ... took an improperly broad view of *Browder*” because in “quoting *Browder*, *Fulton* did not recognize any difference between the various theories of product liability.” *Bradley v. Ameristep, Inc.*, 800 F.3d 205, 210 n.2 (6th Cir. 2015). This concern is well-taken—*Fulton* does appear to conflate different theories of products liability when discussing this point of law—but the Tennessee Court of Appeals has cited *Fulton* as good law for this proposition. See, e.g., *King v. Danek Med., Inc.*, 37 S.W.3d 429, 435 (Tenn. Ct. App. 2000) (“A plaintiff must ... trace the plaintiff’s injury to the specific defect. *Fulton* ... 872 S.W.2d 908, 912.”); *Irion v. Sun Lighting, Inc.*, No. M2002-00766-COA-R3-CV, 2004 WL 746823, at *4 (Tenn. Ct. App. Apr. 7, 2004) (“In order to establish a defect in a product, the plaintiff must ‘trace the injury to some specific error in construction or design of the [product] ... ’ *Fulton* ... (quoting *Browder* ... 541 S.W.2d 402, 404 ...).”). This evolution may also track a Tennessee statutory change—the enactment of the Tennessee Products Liability Act of 1978, two years after *Browder*—which reorganized Tennessee products liability law around a very broad definition of “product liability action.” See Tenn. Code Ann. § 29-28-102(6). In any case, if a defect need not be identified, it is difficult to understand how a causation analysis could be conducted on the terms set forth by the

sum, then, circumstantial evidence may be relied upon to establish facts in products liability actions, but because Tennessee law requires the plaintiff to identify a defect and then “trace his or her injury to the defect,” such reliance on circumstantial evidence cannot obviate the need to establish that a defect caused the injury at issue. *Crown v. Brown Equipment Corp.*, 181 S.W.3d 268, 282 (Tenn. 2005); *see also Tatham v. Bridgestone Americas Holding, Inc.*, 473 S.W.3d 734, 750 (Tenn. 2015) (“Mere proof of an accident, by itself, does not establish that the product is defective. ... Rather, the plaintiff must establish that ‘something was wrong with the product.’” (quoting *Whaley v. Rheem Mfg. Co.*, 900 S.W.2d 296, 299 (Tenn. Ct. App. 1995), which in turn quotes *Browder*)).

As Plaintiff's explain in their opposition to summary judgment, “experts Samuel Sero and Byron Bloch ... opine that [Defendants'] cruise control system can cause unintended throttle opening for which there is no adequate failsafe.” [Doc. 325, at 3]; *see also* [Doc. 322, at 5 (opposition to motion to exclude Loudon explaining that it was “the role of Plaintiffs' other experts Samuel Sero and Byron Bloch to describe how the cruise control design can cause unintended throttle opening”)]. The motions to exclude, however, are meritorious as to Sero and Bloch's description of how a non-specific cruise control malfunction can cause an unintended throttle opening because their testimony on that point is unreliable within the meaning of Federal Rule of Evidence 702 and *Daubert*.

Tennessee Supreme Court. *Cf. Brown v. Crown Equipment Corp.*, 181 S.W.3d 268, 282 (Tenn. 2005) (“The plaintiff also must trace his or her injury to the defect.” (citing *King v. Danek Med., Inc.*, 37 S.W.3d at 435)); *Lake v. Memphis Landsmen, L.L.C.*, No. W2009-00526-COA-R3-CV, 2010 WL 891867, at *12 (Tenn. Ct. App. Mar. 15, 2010) (“[A] products liability claim also requires proof of causation, in that the plaintiff ‘must trace his or her injury to the defect.’” (quoting *Brown*, 181 S.W.3d at 283)). Moreover, the Tennessee Supreme Court's discussion of tracing the plaintiff's injury in *Brown* cited to *King*, which in turn drew from *Fulton*, further suggesting that *Fulton*'s broad view is good law.

In other words, Plaintiffs have not established a genuine dispute of material fact as to whether some non-specific cruise control malfunction can *cause* an unintended acceleration in a 2008 Kia Optima and therefore cannot “trace” the “injury to the defect,” even assuming one existed. *Crown*, 181 S.W.3d at 282.

Plaintiffs’ discussion of the acceptability of circumstantial evidence does not change this conclusion. Plaintiffs list six bullet points (although the first is about the DTCs) which they argue amount to “circumstantial evidence that Mrs. Parks’s event was *caused* by a malfunction of the cruise control.” [Doc. 325, at 15-16 (emphasis added)]. Not one of these bullet points—which are supposed to show a genuine dispute of material fact as to causation, that is, to whether Plaintiffs can trace a defect to an injury—contains an actual citation to the record.²⁵ [Id.] The Court will therefore consider only those arguments that are supported by citation elsewhere in the brief. *See U.S. Structures, Inc. v. J.P. Structures, Inc.*, 130 F.3d 1185, 1191 (6th Cir. 1997) (“It is well settled that the non-moving party must cite specific portions of the record in opposition to a motion for summary judgment, and that the court is not required to search the record for some piece of evidence which might stave off summary judgment.”).

Plaintiffs discuss in the first bullet point, and at some length elsewhere in the brief, nine prior occurrences of cruise control DTC P0564 (discussed in relation to Bloch, above) logged prior to the accident. But they do not connect the DTCs to any prior acceleration and, with the unreliable testimony of Sero and Bloch excluded, do not show how the cruise

²⁵ Plaintiffs’ response brief is not accompanied by any exhibits. Their separate filing, which is styled so as to “respond to the nine [factual] paragraphs in” Defendants’ opening brief in order “to show that those statements” of material fact “are genuinely disputed” for purposes of summary judgment, also lacks citation for key assertions and, at times, looks more like additional legal briefing than a response to a statement of material facts. [Doc. 326].

control design can cause an unintended acceleration. [Doc. 325, at 11-13]. In other words, even if the DTCs are evidence of some defect in the cruise control, they do not themselves trace the defect to the injury, and certainly are not circumstantial evidence that the defect caused *this* injury. Plaintiffs' only other support for the proposition that the cruise control can actually *cause* an unintended acceleration appears to be a discussion of a NASA study of Toyota vehicles in relation to Plaintiffs' failure to warn claim. [*Id.* at 21]. Although the Court is aware of a one-page excerpt of that study included by Plaintiffs in relation to the motion to exclude Sero, they do not cite that page or any other part of the record in support of their conclusion.²⁶

²⁶ The Court takes judicial notice of that study, not for the substantive accuracy of its conclusions, but simply for what it says in relation to what Plaintiffs claim it says. Fed. R. Evid. 201(b)(2), (c)(1). Per Rule 201(b)(2), what NASA says in the report (not its real-world accuracy) "can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned." The report, which is available on the official federal website for NHTSA, explained various hypothetical causes of unintended acceleration (which Plaintiffs discuss), how NASA tested those causes on the Toyota Camry model year 2005 (with limited comparison testing of model years 2002 and 2007), and what NASA ultimately found in relation to unintended accelerations (UAs) that would not leave evidence such as a DTC (which Plaintiffs do not discuss):

[V]ehicle components were dissected in search of tangible evidence of design or manufacturing flaws, particularly those with the potential to create greater than 25 degrees unintended relative throttle openings that could impair power braking if the brakes were pumped.

Proof for the hypothesis that the [Toyota ETC system, or ETCS-i] caused the large throttle opening UAs as described in submitted [consumer reports, or VOQs] could not be found with the hardware and software testing performed. There is a single failure mode found that, combined with driver input, can cause the throttle to jump to 15 degrees in certain conditions and may not generate a DTC. This failure effect can be removed by releasing the accelerator pedal or overridden by the braking system. For the small throttle openings, the NESC team found single failure modes within the ETCS-i that can result in throttle openings less than 5 degrees. These failures may result in high idle speed, hesitation, and surging as described in submitted VOQs and may not generate DTC, but can also be removed by releasing the accelerator pedal or overridden by the braking system.

NASA Engineering and Safety Center, Technical Support to the National Highway Traffic Safety Administration (NHTSA) on the Reported Toyota Motor Corporation (TMC) Unintended Acceleration (UA) Investigation, at 17 (Jan. 18, 2011), https://one.nhtsa.gov/staticfiles/nvs/pdf/NASA-UA_report.pdf. NASA also noted that it subjected test vehicles to EMI levels "significantly above certification levels" and found that "EMI

Plaintiffs' second bullet points discusses the position of the accelerator pedal observed in the 2008 Kia Optima and the brief elsewhere cites to Loudon's "rebuttal report" which they say identifies a "1/2 [inch] gap between the pedal and its bracket – a gap that proves it was in the idle position" at the time of the collision. [Doc. 325, at 18-19]. Loudon's rebuttal report responds to the report of Defense expert James Walker, Jr., whose testimony was not subject to a motion to exclude. [Doc. 317-15]. The Parties do not appear to dispute that the pedal was trapped in an idle position, with a half-inch gap between the pedal and the assembly, by crumpling in the vehicle's toe pan and floorboard. Walker, relying on 3D modeling of the pedal assembly based upon a post-crash 3D scan of the Optima itself, concludes that because the mounting bracket above the pedal was dislocated toward the rear of the vehicle during the crash, the post-crash idle reading was possible only "with the accelerator pedal in the 100% [depressed] position at the time of initial impact" and that "had the accelerator pedal been the idle position at the time of the initial impact, it could not have been trapped by the toe pan and floorboard." [Id. at 23-24].²⁷ Loudon's report does not appear to discuss the crumpling or bracket dislocation—instead focusing on the pedal position itself, which is not in dispute—and explained at his

testing did not produce any UAs, but in some cases caused the engine to slow or stall." *Id.* at 16-17. The Court therefore finds it rather surprising that Plaintiffs would rely on the NASA report, but to cite NASA's discussion of potential DTC-free failures without mentioning its testing of those hypotheses and ultimate conclusion—that it could not identify DTC-free failures which would result in a "large throttle opening" that could not be braked against, as Plaintiffs assert happened here—is decidedly unhelpful. In any case, it remains far from clear to the Court how testing of a 2005 Toyota Camry shows what could happen in a 2008 Kia Optima. This case is about a single automobile, not the entire automobile industry.

²⁷ Plaintiffs assert that Walker backed off this in his deposition. However, they do not cite to the deposition's location in the record, did not attach it to the brief, and the Court cannot find the deposition on its own. [See Doc. 325, at 18 (citing, verbatim, as follows: "(Walker depo, p. 180:11-15. Doc. ,)"). Strictly speaking, the Court was not obligated even to look, and certainly is not obligated to search every exhibit in this exceptionally voluminous record for a deposition that may or may not be there.

deposition that he “was not asked to evaluate” the question of “how and to what extent” the assembly “was out of position post-crash” and that “that’s not what I was ... looking at in my rebuttal report.” [Doc. 317-13, at 64].

In other words, Loudon concedes that he does not know or opine as to how the pedal could have been trapped in an idle position given that the mounting assembly was dislocated toward the back of the vehicle, while Walker’s modeling claims to show that the trapped post-crash idle position was possible only if the pedal were fully depressed. Loudon’s failure to dispute Walker’s modeling suggests that the post-crash pedal position actually cuts against Plaintiffs. It is therefore not circumstantial evidence that an unspecified cruise control malfunction caused the crash.

Plaintiffs’ third bullet point discusses Loudon’s cruise control “signature” testing as circumstantial evidence that a non-specific cruise control malfunction caused the crash. [Doc. 325, at 15]. They do not cite, in the bullet point or elsewhere, to Loudon’s report or deposition on this point. Defendants do cite to his work, and explain that he concludes that the vehicle speed and engine revolutions per minute from his exemplar testing of the cruise control system is “consistent with the digital signature that the dashboard readings were stuck at as a result of the accident.” [Doc. 311-2, at 23]. For the signature to be consistent with a cruise-control-induced acceleration is to presuppose, however, that an unintended cruise-control-induced acceleration is possible. As discussed above, Loudon does not purport to conclude that the presupposition is possible, and he instead defers to the excluded testimony of Sero and Bloch on that point. To the extent that the consistency conclusion presupposes the truth of unreliable, excluded testimony,

it is not circumstantial evidence of a cruise-control-induced unintended acceleration and does not bar summary judgment.

Plaintiffs' fourth bullet point asserts that it "is uncontested that braking effectiveness is dramatically reduced as the vacuum assist is depleted after only a few pumps of the brakes during a wide-open throttle (WOT) condition." [Doc. 325, at 15]. Elsewhere in the brief they cite to testing by Loudon and a defense expert on this point. Braking ineffectiveness at wide-open throttle, however, is not evidence that the cruise control is capable of causing any unintended acceleration, let alone the one at issue.

Plaintiffs' fifth bullet point asserts that experts Dr. Kress and Dr. Young (Defense expert) think that pedal misapplication or driver error is unlikely for the amount of time that that 2008 Kia Optima accelerated. They do not provide citation in support of this claim, and in any case, it appears oriented toward refuting Defendants' theory of the case (pedal misapplication caused the Parks crash). Indeed, it does not even purport to show that the cruise control can cause an unintended acceleration.

Plaintiffs' sixth bullet point asserts: "Eyewitnesses to the event showed that Mrs. Parks was controlling her car as a rational person would and she made several dying declarations stating that the car could not be stopped. Specific details discussed in the plaintiffs' response brief for Dr. Kress." [Doc. 325, at 16]. Although considering the Kress response brief as incorporated by reference amounts to giving Plaintiffs extra briefing space they were not granted (not to mention the material facts response, [Doc. 326], which contains legal argumentation and in that sense also amounts to excess briefing), it makes no matter because the citations to eyewitness depositions in the Kress brief do not

show how a cruise control malfunction could cause an unintended acceleration. [Doc. 321].

Plaintiffs also make arguments related to other design defects in the 2008 Kia Optima, negligence, failure to warn, and whether Kia Motors American is a proper defendant. The Court need not address those arguments, however, because Defendants have shown, and Plaintiffs have not successfully rebutted, that there is no genuine dispute of material fact as to whether a particular defect in the 2008 Kia Optima's cruise control system can be traced to, or caused, the 2015 accident.

In sum, there is no admissible evidence—direct, circumstantial, or otherwise—showing how the 2008 Kia Optima's cruise control could have caused any unintended acceleration, let alone the acceleration at issue. To the extent that Sero and Bloch confront this issue, they essentially posit various design defects and then claim that the crash itself shows that those defects could, and apparently did, manifest to cause the crash.

But as discussed above, and even assuming that Sero and Bloch are right about the existence of EMI generally and in the 2008 Kia Optima specifically, they do not bridge the profound gap between this premise and their respective causal conclusions. Regardless, their proposed testimony is unreliable, and Plaintiffs' remaining evidence—which is circumstantial, but does not establish how any particular defect could, or did, *cause this crash*—is unavailing because Tennessee law requires them to “trace [their] injury to the defect.” *Crown*, 181 S.W.3d at 282. Plaintiffs, in other words, have not carried their burden to show a genuine dispute of material fact as to whether the element of causation can be established. Summary judgment is therefore appropriate.

IV. CONCLUSION

For the reasons set forth herein:

- Defendants' motion to exclude the testimony of Samuel Sero (4:16-cv-117, Doc. 307; 4:16-cv-118, Doc. 284), is hereby **GRANTED IN PART**;
- Defendants' motion to exclude the testimony of Byron Bloch, (4:16-cv-117, Doc. 313; 4:16-cv-118, Doc. 290), is hereby **GRANTED IN PART**;
- Defendants' motion to exclude the testimony of Steven Loudon, (4:16-cv-117, Doc. 311; 4:16-cv-118, Doc. 288), is hereby **DENIED AS MOOT**;
- Defendants' motion to exclude the testimony of Dr. Tyler Kress, (4:16-cv-117, Doc. 309; 4:16-cv-118, Doc. 286), is hereby **DENIED AS MOOT**; and
- Defendants' motion for summary judgment, (4:16-cv-117, Doc. 316; 4:16-cv-118, Doc. 293), is hereby **GRANTED** and separate judgment shall enter.

SO ORDERED this 28th day of May, 2020.

/s/ Harry S. Mattice, Jr.
HARRY S. MATTICE, JR.
UNITED STATES DISTRICT JUDGE